

preferably there will be two or three, each with their associated shunt transistors.

Ex. A, the '002 Patent, at col. 8, ll. 18-39; *see also* Fig. 7.

One of ordinary skill in the art would understand the term “pad” to be a conductive area. The pickup pad “picks up” the voltage between the back plane and the front plane, thereby electrically connecting the back plane to the front plane. The prosecution history is consistent with this construction; as such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

LPL’s proposed definition is in accordance with the meaning of “pick up pad” to one of ordinary skill in the art. The pickup pad, described in the specification and depicted in Figure 7, is consistent with LPL’s construction. In contrast, Defendants’ proposed construction of “pickup pad” as “a pad located at the corner region of a backplane for *aligning* the frontplane and backplane” ignores the fact that the pickup pad is used to electrically connect these glass substrates.

d. “shunt switching element” (Claims 3, 4, 8, 9, 14 and 15)

The term “shunt switching element” has an ordinary meaning of “a parallel switching device.” As explained below, all of the intrinsic sources of claim construction necessitate this ordinary meaning, and the Court should adopt this construction.

Turning first to the claim language, it is clear that shunt switching elements are devices that couple various elements within the circuit. Specifically, they couple the pickup pad to the resistance. *See, e.g.*, Ex. A, the '002 Patent, claims 2-4. Additionally, shunt switching elements couple the inner electrostatic discharge guard ring to the row and column lines. *See, e.g.*, Ex. A, the '002 Patent, claim 8.

The specification clearly supports that a switching element includes devices such as transistors or optionally diodes, *i.e.*, switching devices. Throughout the specification, “switching element” refers to a device such as a transistor or diode. For example, the specification discloses “a switching element, transistor 22” Ex. A, the ‘002 Patent, at col. 3, ll. 48-49; and col. 4, ll. 10-11. Additionally, the specification states that “the shunt transistors 146, 194 and 222, etc. also can be formed as other active switching elements, such as diodes.” Ex. A, the ‘002 Patent, at col. 8, ll. 57-59.

The word “shunt” is used throughout the specification to indicate those elements that are connected in parallel with the protected circuit. In describing the connection between the pickup pad and the row and column lines, and the outer electrostatic discharge guard ring, the specification refers to that portion of the circuitry as composed of “shunt line 220,” “shunt transistor 222,” “shunt line 224,” and “shunt transistor 226.” Ex. A, the ‘002 Patent, at col. 8, ll. 20-26. As shown in Figure 7 of the ‘002 patent, the pickup pad is connected in parallel with the protected circuit. Furthermore, “shunt transistors 22,” coupling the inner electrostatic discharge guard ring to the row and column lines, are arranged in parallel with respect to the protected circuit. *See, e.g.*, Ex. A, the ‘002 Patent, Figure 5.

The prosecution history is also consistent with LPL’s construction. During prosecution, the Examiner addressed the “shunt switching means,” citing to U.S. Patent 4,736,271 (hereinafter “the ‘271 Patent”). The ‘271 Patent discloses the use of diodes as shunt elements. *See, e.g.*, Ex. I, the ‘271 Patent, col. 4, ll. 66-68. These shunt elements are also disclosed as being connected in parallel with respect to the protected circuit. *See, e.g.*, Ex. I, the ‘271 Patent, Figures 3, and 6-7.

The language of the claims, the specification, and the prosecution history clearly shows that the proper construction of “shunt switching element” is “parallel switching device,” which is the ordinary meaning of the term as understood by one of ordinary skill in the art at the time of the invention. As such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants’ proposed construction of “a device that is capable of switching between on and off states (*e.g.*, a transistor or diode) to open or close a by-pass for diverting electrical current” is unclear and not supported by the intrinsic record. Defendants’ construction improperly limits the meaning of the term to a device capable only of switching between states. Neither the specification, nor the claims, nor the prosecution history supports limiting the term in this manner. As stated above, the specification expressly refers to the use of transistors, *i.e.*, devices that can control the amount of current through them, and it only references the use of diodes as a possible modification.

Further, the device necessarily must be a parallel device, yet Defendants’ proposed construction fails to address this critical feature. At best, “to open or close a by-pass for diverting electrical current” suggests an element that connects to an unspecified secondary circuit. There no relationship between this unclear definition and the word “shunt.”

Accordingly, this Court should adopt LPL’s proposed construction of “parallel switching device” and reject Defendants’ proposed construction.

e. “outer electrostatic discharge guard ring” (Claim 1, 2, 7, 12, 13, 18)

The intrinsic record makes clear that the term “outer electrostatic discharge guard ring” is properly construed as “a closed or open ring, or open L or C-shaped line, outside the active matrix display to provide protection from electrostatic discharges.”

Turning first to the claim language, and in fact focusing on the disputed term itself, it is an *outer ring* to *guard* against, or to provide protection from, *electrostatic discharges*. Indeed, claim 1 explicitly recites that the outer electrostatic discharge guard ring “provide[s] protection from electrostatic discharges.”

Next, the specification clearly supports both that: (1) the guard ring can be a closed or open ring, or open L or C-shaped line; and (2) the outer guard ring is outside the active matrix display. First, with regard to the shape of a guard ring, the specification explicitly states that, although the guard ring 144 (in this case, the inner guard ring), is illustrated as a closed ring, it could also be “an open L or C-shaped line.” Ex. A, the ‘002 Patent, at col. 7, ll. 18-20. Second, with regard to the “outer” location of the guard ring, the specification discloses that “the outer guard ring 200 is connected to all of one of the source and gate pads (not illustrated)” *Id.* at col. 8, ll. 5-6. It would be clear to one of ordinary skill in the art, especially in view of Figure 1, that the source and gate pads are on the outside of the active matrix display. The prosecution history is also consistent with this construction and, as such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants’ proposed construction of “a ring of conductor, located external to the inner electrostatic discharge guard ring if the two rings are used together, for draining off static buildup to prevent electrostatic discharge” is clearly not supported by the intrinsic record. It is indisputable that the outer electrostatic discharge guard ring *cannot* drain off static buildup to prevent electrostatic discharge. One of ordinary skill in the art would understand, and the intrinsic record makes clear, that electrostatic discharge cannot be *prevented*, and, as such, the guard rings serve to provide *protection from, not prevention of*, electrostatic discharges. *See*,

e.g., Ex. A, the '002 Patent at col. 1, ll. 2-3; col. 2, ll. 40-41; col. 7, ll. 41-42; and col. 8, l. 28 (“The outer ESD guard ring 200 provides ESD protection.”).

Accordingly, this Court should reject Defendants’ construction of the term “outer electrostatic discharge guard ring” and adopt LPL’s proposed construction of “a closed or open ring, or open L or C-shaped line, outside the active matrix display to provide protection from electrostatic discharges.”

f. “inner electrostatic discharge guard ring” (Claim 8)

It is clear from the intrinsic record that the term “inner electrostatic discharge guard ring” is properly construed as “a closed or open ring, or open L or C-shaped line, inside the outer guard ring to provide protection from electrostatic discharges.”

Turning first to the claim language, and in fact focusing on the disputed term itself, it is an *inner ring* to *guard* against, or provide protection from, *electrostatic discharges*. Indeed, claim 8 explicitly recites that the inner electrostatic discharge guard ring “provide[s] protection from electrostatic discharges.”

Next, the specification clearly supports both that: (1) the guard ring can be a closed or open ring, or open L or C-shaped line; and (2) the inner guard ring is inside the outer guard ring. First, with regard to the shape of a guard ring, the specification clearly states that, “the guard ring 144 [the inner guard ring] is illustrated as a closed ring, but could also be an open L or C-shaped line” Ex. A, the '002 Patent, at col. 7, ll. 18-20. Second, with regard to the relative locations of the guard rings, the specification repeatedly refers to the inner guard ring as being “internal” and to the outer guard ring as being “external.” *See, e.g.*, Ex. A, the '002 Patent, at col. 2, ll. 54-69.

The prosecution history also supports the relative positions of the inner and outer guard rings. Specifically, to distinguish over the prior art, the Applicant highlighted the novel

relationship between the inner and outer electrostatic discharge guard rings by emphasizing that a “*dual ring* is not suggested by any of the references alone or combined.” Ex. G, Proposed Response filed July 2, 1990, at p. 2 (emphasis added).

Finally, because the publicly available intrinsic record unambiguously defines the scope of the term, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants’ proposed construction of “a ring of conductor, located internal to the outer electrostatic discharge guard ring, for draining off electrostatic buildup to prevent electrostatic discharge” is not supported by the intrinsic record. It is indisputable that the inner electrostatic discharge guard ring *cannot* drain off electrostatic buildup to prevent electrostatic discharge. One of ordinary skill in the art would understand, and the intrinsic record makes clear, that electrostatic discharge cannot be *prevented*, and, as such, the guard rings serve to provide *protection from, not prevention of*, electrostatic discharges. *See, e.g.*, Ex. A, the ‘002 Patent at col. 2, ll. 52-57.

Accordingly, this Court should reject Defendants’ construction of the term “inner electrostatic discharge guard ring” and adopt LPL’s proposed construction of “a closed or open ring, or open L or C-shaped line, inside the outer electrostatic discharge ring to provide protection from electrostatic discharges.”

2. Terms and Phrases of the ‘002 Patent That Should Not Be Construed

a. “interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another” (Claim 1 and 12)

The phrase “interconnecting substantially all of said row lines to one another *and* substantially all of said column lines to one another” does not need construction. If a construction of this phrase must be made, however, it should not be given Defendants’ proposed

construction, which not only inexplicably separates the phrase into two separate phrases, but construes the separated phrases to artificially narrow the scope of LPL's patent protection.

Specifically, Defendants construe "interconnecting substantially all of said row lines to one another" to mean "electrically connecting by conductors all, or nearly all, of row lines to one another"; and separately construe "interconnecting . . . substantially all of said column lines to one another" to mean "electrically connecting by conductors all, or nearly all, of column lines to one another." Given that Defendants appear to be construing the phrases identically, their separation is nonsensical and unnecessary. More importantly, however, Defendants' narrow construction is not supported by the intrinsic record. First, nowhere in the specification is "interconnecting" limited to "electrically connecting by conductors." As discussed above, the specification explicitly recites that the row lines and column lines are "interconnected (*shorted*)" to one another. Ex. A, the '002 Patent, at col. 5, l. 65 - col. 6, l. 9 (emphasis added). Second, Defendants also construe, albeit without support, "substantially all" to mean "all, or nearly all." The specification, however, does not require this construction; rather, the specification discloses that the interconnection of the row lines and column lines be sufficient to provide protection from electrostatic discharge. *See, e.g.*, Ex. A, the '002 Patent at col. 6, ll. 26-59. Furthermore, such a construction goes against the open-ended claim format selected by LPL for the '002 Patent (*e.g.*, "comprising . . ."). Thus, the construction of "interconnecting substantially all of said row lines to one another *and* substantially all of said column lines to one another" should be construed in accordance with the ordinary meaning.

Accordingly, to the extent any construction is necessary, the ordinary meaning of this phrase to one of ordinary skill in the art should apply, and "interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another" should be

construed as “sufficiently interconnecting said row lines to one another and said columns lines to one another to provide protection from electrostatic discharge.”

b. “electrostatic discharges” (Claims 1, 8, 12)

The term “electrostatic discharges” is simple, clear, and does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “flow of electrical current caused by a build-up of static electrical charges,” which only adds ambiguity to an otherwise straightforward term universally understood in the art. For example, the term “build-up” implies that electrostatic discharges must accumulate gradually over time, yet one of ordinary skill would clearly understand that such may not be the case. Nor is this artificial restriction supported by the intrinsic record. *See, e.g.*, Ex. A, the ‘002 Patent at col. 4, ll. 46-49 (“[e]lectrostatic discharge can occur when a high static electric potential is coupled across at least one pair of the gate lines 18 and the source lines 20.”). Moreover, Defendants’ proposed construction of “flow” could require steady, smooth, and free passage of electricity. One of ordinary skill in the art would understand that electrostatic discharges do not necessarily “flow.” Lightning is an example of an electrostatic discharge that happens suddenly. The electrical current passes suddenly from one place to another, *i.e.*, from the sky to the earth. For a TFT transistor, the electrical charge on a source terminal of a transistor passes suddenly to the gate terminal; it is neither a gradual flow nor a “draining off,” as Defendants suggest.

To the extent construction of the term “electrostatic discharges” is necessary, the plain and ordinary meaning of this term should apply, and “electrostatic discharges” should be construed as “a release of current resulting from a voltage differential caused by static electricity.”

c. “coupled to said interconnected row and column lines via a resistance” (Claims 1 and 12)

The phrase “coupled to said interconnected row and column lines via a resistance” does not need construction. The meaning of the term “coupled” is plain on its face. If a construction of this phrase must be made, however, it should not be given Defendants’ proposed construction of “linked through one or more resistors to the interconnected column lines and the interconnected row lines.” First, as discussed above, Defendants improperly limit the term “resistance,” to a single type of component: a resistor. Second, by limiting the term “coupled” to require linking through one or more resistors, Defendants have defined “coupled” even *more narrowly* than they have defined “interconnecting,” which Defendants have construed as “electrically connecting.” It is indisputable that one of ordinary skill in the art would understand that the reverse is true, and that the intrinsic record of the ‘002 Patent does nothing to alter the ordinary meaning of the word “coupled.”

In view of the foregoing, the phrase “coupled to said interconnected row and column lines via a resistance,” which uses commonly understood words and, therefore, should be given its ordinary meaning, *see Phillips*, 415 F.3d at 1313, is properly construed as “electrically connected to said interconnected row and column lines via a resistance.”

d. “removing said outer guard ring and row and column interconnections” (Claims 1 and 12)

In its proper context, the meaning of the phrase “removing said outer guard ring and row and column interconnections” does not require construction. If a construction of this phrase must be made, however, it should not be given Defendants’ proposed construction of “electrically disconnecting the interconnections between rows and between columns and disconnecting rows and columns from the outer guard ring.” This construction is not supported

by the plain meaning of the phrase, and is contradicted by the claim language and the specification.

In effect, Defendants are impermissibly treating the claim terms as “a nose of wax,” for example, by construing the *same* occurrence of the term “removing” to mean both “electrically disconnecting” and “disconnecting.” Such a construction cannot stand.

The meaning of the term “removing” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this term should apply and “removing said outer guard ring and row and column interconnections prior to completion of the display” should be construed as “physically disconnecting said guard ring and row and column interconnections.”

e. “corner pad” (Claims 7 and 18)

In its proper context, the meaning of the term “corner pad” does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “a pad of metal or other conductive materials that is located at the corner of an outer guard ring, and electrically connected with the outer ring.” Such a construction is untenable in view of claim language alone.

Specifically, the claim language (claims 7 and 18) explicitly recites that the corner pad is formed “on at least one corner of the *display*,” and not at a “corner of the outer guard ring.” Moreover, the corner pad is not “electrically connected with the outer guard ring,” but rather is formed, and “align[ed] [with] scribe lines . . . for *removing* said outer guard ring.”

To the extent construction of the term “corner pad” is necessary, the plain and ordinary meaning to one of ordinary skill in the art should apply, and “corner pad” should be construed as “a reference mark for cutting.”

f. “scribe line” (Claims 7 and 18)

The meaning of the term “scribe line” is plain on its face and does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “a predefined line along which the glass substrate can be marked with a sharp tool either to disconnect the conductor patterns along the line or to initiate the fracture of the glass substrate along the line.” Such a construction is not supported by the intrinsic record and is clearly contrived to narrow artificially the scope of a simple and straightforward claim term.

To the extent any construction is necessary, the plain and ordinary meaning of should apply, and “scribe line” should be construed to mean “cutting line based on reference marks.”

g. “aligning scribe lines with said corner pad for removing said outer guard ring and row and column intersections” (Claims 7 and 18)

The phrase “aligning scribe lines with said corner pad for removing said outer guard ring and row and column intersections” does not require construction. If a construction of this phrase must be made, however, it should not be given Defendants’ proposed construction of “aligning each scribe line with one edge of the corner pad for removing the outer guard ring and row and column interconnections.” Among other things, Defendants fail to construe “aligning,” which is the only claim term first introduced in the proposed phrase. The reason for Defendants’ apparent oversight is clear: to narrow improperly, without any basis whatsoever in the intrinsic record, the term “said corner pad” to mean “one edge of the corner pad.” Such a construction cannot stand.

The meaning of the term “aligning” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this term should apply and “aligning” should mean “adjusting.”

D. Proper Construction of the Terms of the ‘121 Patent in Dispute**1. Terms and Phrases of the ‘121 Patent That Should Be Construed****a. “bending part” (Claims 1, 2, 6, 8, 11 and 14)**

The term “bending part” has an ordinary meaning of “a bendable part of the tape carrier package where the base film is removed.” As explained below, the intrinsic record supports this ordinary meaning.

First, looking to claim 1 for example, the claim language itself recites:

a first bending part in which a second portion of *the base film* existing at a *bent position* between the dummy bending part and the integrated circuit chip *is removed*.”

Ex. B, the ‘121 patent, claim 1 (emphasis added).

Thus, it is clear from claim 1 that: (1) the bending part must be bendable to exist at a bent position; and (2) the base film is removed.

Second, the specification repeatedly describes a bending part as having “the base film removed.” *See, e.g.*, Ex. B, the ‘121 Patent, at col. 5, ll. 15, 22, 42, 50.

Third, in the prosecution history, the Applicant distinguishes the present invention over the prior art by stating, *inter alia*, that “the gaps identified by the Examiner [in the prior art reference] are not bending parts formed by removing a portion of the base film” Ex. D, Amendment filed July 22, 2003, at p. 12.

Finally, because the publicly available intrinsic record unambiguously defines the scope of the term, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants’ proposed construction of “area of the tape carrier package where a portion of base film is removed where the tape carrier package is to be folded,” which requires that the bending part be folded, is contradicted by the intrinsic record, mostly clearly by the

claim language itself. Specifically, claim 1 recites that a bending part exists “at a bent position,” and later *in the same claim* uses the term “folded” in reference to the position of the dummy bending part. Where claims use different terms, especially in the same claim, those differences are presumed to reflect a difference in the scope of the claims. *See Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1296 (Fed. Cir. 2002) (finding that where two terms “have distinct meanings[and e]ach term appears in claim language[, e]ach therefore imparts a different scope to the claim in which it appears,” particularly where “the specification treat[ed] the two terms differently”); *Mycogen Plant Science, Inc. v. Monsanto Co.*, 243 F.3d 1316, 1328-30 (Fed. Cir. 2001) (noting first that “there is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims,” court affirmed finding that two claim sets were not identical) (quotation omitted); *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”); *Tulip Computers, Int’l B.V. v. Dell Computer Corp.*, 236 F. Supp. 2d 364, 388 n.101 (D. Del. 2002) (describing as “uncontroversial” the “proposition that different claim terms should be construed differently”). Further, the plain and ordinary meaning of the terms “bent” and “folded” are clearly distinct, and neither the specification nor the prosecution history requires otherwise.

b. “dummy bending part” (Claims 1, 2, 4, 5, 6, 8, 10, 11, 14 and 15)

The term “dummy bending part” is properly construed as “a bendable part of the tape carrier package where the base film is removed, which has a function other than bending.” This construction is necessitated by the intrinsic record, which makes clear the difference between the

“dummy” bending part and the bending part: the former has a function other than bending, while the latter has the function of bending.

Turning first to the claim itself, claim 1, for example, recites “a dummy bending part in which a portion of the base film is removed . . . for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel.” Ex. B, the ‘121 Patent, claim 1.

Second, the specification repeatedly references the various advantages provided by the dummy bending part, none of which relates to bending. The disclosed advantages include the following:

1. “capable of reducing a brightness difference in the screen” (*see*, *e.g.*, Ex. B, the ‘121 Patent, at col. 1, ll. 34-36);
2. “distributing stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing the base film between the pad part and the integrated circuit chip” (*id.* at col. 1, ll. 46-49);
3. “reducing a thermal expansion force and a thermal contraction force of the base film parallel to the longitudinal direction of the integrated circuit chip” (*id.* at col. 1, ll. 59-61); and
4. “reducing a thermal expansion force and a thermal contraction force generated at the time of thermal-pressing the pad onto the liquid crystal panel” (*id.* at col. 2, ll. 13-16).

Third, the prosecution history is also consistent with construction and, as such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants’ proposed construction of “area on TCP where a portion of the base film is removed between either the input or output pad part and the driving integrated circuit where the tape carrier package is not folded” distinguishes the “dummy bending part” from the “bending part” on the basis of position on the TCP, rather than on the basis of function as

disclosed by the patent. Defendants' construction should be rejected because it improperly equates the terms bending and folding and ignores the context of the invention.

c. “reducing a thermal expansion force and a thermal contraction force” (Claims 1, 2 and 14)

It is clear from the intrinsic record that the phrase “reducing a thermal expansion force and a thermal contraction force” is properly construed as “reducing the thermal expansion and contraction forces that result from thermal pressing the tape carrier package to the liquid crystal panel.”

Looking to the claim language, as discussed above, claim 1 recites “a dummy bending part . . . for reducing a thermal expansion force and a thermal contraction force” The specification is abundantly clear that the dummy bending part functions to *reduce* the thermal expansion and contraction forces that result from *thermal-pressing* the tape carrier package to the liquid display panel. *See, e.g.*, Ex. B, the ‘121 Patent, at col. 2, ll. 30-58; col. 3, ll. 33-36. As a result, the present invention reduces the brightness differences in the screen, which result from thermal-pressing, thereby enabling an improved picture quality.

The prosecution history is also consistent with construction and, as such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

Defendants' proposed construction of the *entire* clause of “reducing a thermal expansion force and a thermal contraction force generated when thermal pressing the output pad part onto the liquid crystal panel” is, once again, unhelpful. In effect, Defendants have repeated the language of the clause, essentially *verbatim* (just adding the phrase “of the tape carrier package”), without any interpretation whatsoever. Defendants' proposed construction of “a reduction of a thermal expansion force and the thermal contraction force generated when thermal

pressing the output pad part of the tape carrier package onto the liquid crystal panel” should be rejected.

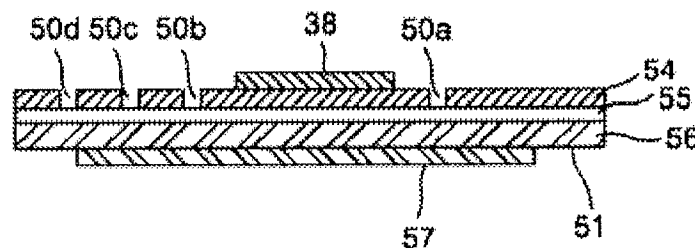
d. “pad part extending from the integrated circuit chip” (Claims 1, 2, and 14)

The phrase “pad part extending from the integrated circuit chip” has an ordinary meaning of “an interface electrically connected to the integrated circuit chip.” All of the intrinsic sources of claim construction are consistent with this ordinary meaning, and it should be adopted by the Court.

The term “pad part” is well-known by people of ordinary skill in the art to be an interface. Although the term “extending from” has more than one ordinary meaning, the proper construction of this term is “electrically connected,” because “extending from” is used throughout the entire intrinsic record in a manner consistent with this single meaning. *See Bell Atlantic*, 262 F.3d at 1271.

Turning to the specification and, in particular, to Figure 11 (reproduced below), it is clear that the input pad part 51 is electrically connected (and, in this embodiment, not physically connected) to the integrated circuit chip 38.

FIG. 11



As such, it is clear the term “extending from” cannot require a physical connection. *See Chimie v. PPG Indus. Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) (“As we have frequently stated, a construction that ‘would not read on the preferred embodiment . . . would rarely if ever be correct and would require highly persuasive evidentiary support.’”) (quoting *Interactive Gift Express, Inc. v. Compuserve Inc.*, 231 F.3d 859, 876 (Fed. Cir. 2000)).

In contrast, Defendants’ proposed construction of “the pads located at the ends of the TCP which are electrically connected to the integrated circuit chip” improperly narrows the phrase by including “at the ends of the TCP” in the absence of intrinsic support.

Accordingly, this Court should adopt LPL’s proposed construction of “pad part extending from the integrated circuit chip” to mean “an interface electrically connected to the integrated circuit chip.”

e. “distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part” (Claims 5 and 8)

It is clear from the intrinsic record that the phrase “distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part” is properly construed to mean “distributing the stress applied to the liquid crystal panel that results from the thermal expansion of the pad part during thermal pressing.”

Looking to the claim language, claim 5 recites “a dummy bending part . . . for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part” The specification is abundantly clear that the dummy bending part functions to *distribute the stress* that results from the thermal expansion during the *thermal-pressing* of the tape carrier package to the liquid display panel. *See, e.g.*, Ex. B, the ‘121 Patent, at col. 2, ll. 30-58; col. 6, ll. 8-12. As a result, the present invention reduces the brightness differences in the screen, which result from thermal-pressing, thereby enabling an improved picture quality.

The prosecution history is also consistent with LPL's construction and, as such, any reliance on extrinsic evidence is improper. *See Vitronics Corp.*, 90 F.3d at 1583; *see also Phillips*, 415 F.3d at 1324.

In contrast, Defendants' proposed construction of "distributing a stress applied to the liquid crystal panel that results from the thermal pressing of the *output pad part* of the tape carrier package onto the liquid crystal panel," has no support in the claim language itself. Specifically, the italicized phrase "output pad part" simply does not appear in claims 5 and 8. Defendants' attempt to narrow the recited claim term "pad part" absent any basis in the intrinsic record should be rejected.

2. Terms and Phrases of the '121 Patent That Should Not Be Construed

a. "tape carrier package" (Claims 1, 2, 4-12, 14 and 15)

The term "tape carrier package" is simple, clear and does not require construction. If a construction of this term must be made, however, it should not be given Defendants' proposed construction of "an assembly used to connect a driving integrated circuit (D-IC) to the liquid crystal display (LCD) and the printed circuit board (PCB) having a base film, adhesive and metal layer." Defendants' construction is contrived to narrow artificially this otherwise straightforward term, which was and is universally understood in the art.

In this case, the patent specification explicitly states the plain and ordinary meaning of tape carrier package: "a tape carrier package (TCP) 10 mounted with a D-IC [driving integrated circuit] and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB [printed circuit board] 6." Ex. B, the '121 Patent, at col. 2, ll. 1-3. Defendants' purpose appears to be to narrow the tape carrier package of the present invention to three layers, *i.e.*, a base film, adhesive and metal layer. The intrinsic record contradicts this construction. In fact, the claim language itself uses the open-ended term "comprising," reciting:

a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package *comprising*:

Ex. B, the ‘121 Patent, claim 1 (emphasis added).

Notably, the claim language (and the specification discussed above) also uses the term “liquid crystal panel,” not LCD, as proposed by Defendants.

Nothing whatsoever in the specification or the prosecution history necessitates deviating from the plain and ordinary meaning of tape carrier package and limiting that term to a base film, adhesive and metal layer. *See Phillips*, 415 F.3d at 1323 (reiterating that it is improper to import limitations from the specification into the claims). Quite the contrary, the use of the term “tape carrier package” in the intrinsic record is consistent with its ordinary meaning of “an apparatus to connect an integrated circuit chip to the liquid crystal panel and the printed circuit board.”

b. “output pad part” (Claims 1 and 2)

The term “output pad part” does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “area of the tape carrier package that connects to the pads formed on the edge of the lower glass substrate of the LCD.”

Nothing whatsoever in the specification or the prosecution history necessitates deviating from the plain and ordinary meaning of “output pad part” to one of ordinary skill in the art, and limiting the term to require that it be an *area* that connects to the pads *formed on the edge of the lower glass substrate* of the LCD. *See Phillips*, 415 F.3d at 1323 (reiterating that it is improper to import limitations from the specification into the claims).

The meaning of the term “output” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this term should

apply, and “output pad part” should be construed to be “an interface between the integrated circuit chip and the liquid crystal panel.”

c. “bent position” (Claims 1, 2, 6, 8, and 11)

The meaning of the term “bent position” is plain on its face and does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “location on the tape carrier package where the tape carrier package is folded.” Like their construction of “bending part,” Defendants have construed two *different* terms “bent” and “folded,” which appear in the *same* claim, identically. Further, the term “at a bent position” refers to the position of the “bending part” in the above-referenced claims. In other claims of the patent, *e.g.* claim 14, the position of the “bending part” is recited as “where the tape carrier package is folded.” Defendants’ *identical* construction of these two different terms is not supported by the intrinsic record and should be rejected. *See Trintec Indus.*, 295 F. 3d at 1296; *Mycogen Plant Science*, 243 F.3d 1328-30; *CAE Screenplates*, 224 F.3d at 1317; *Tulip Computers*, 236 F. Supp. 2d at 388 n.101.

The meaning of the term “bent position” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this term should apply and “bent position” should mean “position that is not flat.”

d. “input pad part” (Claims 1 and 2)

The term “input pad part” does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “area of the tape carrier package that is connected to the output signal wiring of a printed circuit board.”

Nothing whatsoever in the specification or the prosecution history necessitates deviating from the plain and ordinary meaning of “input pad part” to one of ordinary skill in the art, and limiting the term to require that it be an *area* that is connected to the *output signal wiring* of a

PCB. *See Phillips*, 415 F.3d at 1323 (reiterating that it is improper to import limitations from the specification into the claims).

The meaning of the term “input” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this term should apply, and “input pad part” should be construed as “an interface between the integrated circuit chip and the printed circuit board.”

e. “not folded” (Claims 1, 5 and 14)

The meaning of the term “not folded” is plain on its face and does not require construction. If a construction of this term must be made, however, it should not be given Defendants’ proposed construction of “substantially flat area of the tape carrier package.” Turning to the intrinsic record, the term “not folded” relates to the position of the dummy bending part on the tape carrier package, *i.e.*, “where the tape carrier package is *not folded*.” *See* Claims 1, 5 and 14. Defendants’ narrow construction, which requires that the dummy bending part be located on a substantially flat area tape carrier package, is without support.

To the extent any construction is necessary, the plain and ordinary meaning of this phrase should apply, and “not folded” should be construed as “not making a fold.”

f. “thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip” (Claim 14)

Defendants’ proposed “construction” of this phrase is unnecessary and unhelpful because they have repeated the language entirely *verbatim*. Defendants have provided no interpretation whatsoever of the claim terms, instead inexplicably “construing” the phrase to mean “a reduction of a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated chip.”

It is clear from the intrinsic record, however, that the phrase “thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip” should be construed consistently with LPL’s proposed construction of “reducing a thermal expansion force and a thermal contraction force.” *See* disputed term 6 above. This phrase is therefore properly construed as “reducing the thermal expansion and contraction forces of the base film parallel to a longitudinal direction of the integrated circuit chip that result from thermal pressing the tape carrier package to the liquid crystal panel.”

g. “on the pad part” (Claim 15)

The meaning of the term “on the pad part” is plain on its face and does not require construction. In fact, because both parties have previously proposed definitions for “pad part,” Defendants are asking this Court to construe “on.” Moreover, by proposing “aligned directly on top of the pad part” as their construction of “on the pad part,” Defendants are in effect asking this Court to construe “on” as “aligned directly on top of.” Once again, Defendants’ purpose appears to be to narrow artificially the scope of “on,” a simple and straightforward claim term.

Turning first to the claims, the term “on the pad part” refers to the position of the “dummy bending part” in relation to the “pad part.” Ex. B, the ‘121 Patent, claim 15. The “dummy bending part” is formed by removing a portion of the base film. Although the “dummy bending part” is located at or along, or in proximity to, the pad part, nowhere in the claims, specification, or prosecution history is the term limited to “aligned directly on top of the pad part.” For example, the specification discloses an embodiment where the “dummy bending part” is located “between an output pad part and the D-IC in parallel.” Ex. B, the ‘121 Patent, at col. 5, ll. 4-5.

The meaning of the phrase “on the pad part” is plain on its face and does not require construction. To the extent any construction is necessary, the plain and ordinary meaning of this phrase should apply, and “on the part” should be construed as “at or along, or in proximity to, the pad part.”

V. CONCLUSION

For all of the foregoing reasons, LPL submits that the Court construe the above disputed phrases in accordance with LPL’s proposed constructions.

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THE BAYARD FIRM

/s/ Richard D. Kirk (rk0922)
222 Delaware Avenue, Suite 900
P.O. Box 25130
Wilmington, DE 19899-5130
(302) 655-5000

Counsel for Plaintiff
LG.PHILIPS LCD CO., LTD.

OF COUNSEL:
Gaspare J. Bono
Matthew T. Bailey
Cass W. Christenson
McKenna Long & Aldridge LLP
1900 K Street, N.W.
Washington, D.C. 20006

(202) 496-7500

CERTIFICATE OF SERVICE

The undersigned counsel certifies that, on March 8, 2006, he electronically filed the foregoing document with the Clerk of the Court using CM/ECF, which will send automatic notification of the filing to the following:

Robert W. Whetzel, Esq.
Matthew W. King, Esq.
Richards, Layton & Finger
One Rodney Square
P.O. Box 551
Wilmington, DE 19899

The undersigned counsel further certifies that copies of the foregoing document were sent by email and hand to the above counsel and by email and first class mail to the following non-registered participants:

Christine A. Dudzik, Esq.
Thomas W. Jenkins, Esq.
Howrey LLP
321 North Clark Street
Suite 3400
Chicago, IL 60610

Teresa M. Corbin, Esq.
Glenn W. Rhodes, Esq.
Howrey LLP
525 Market Street
Suite 3600
San Francisco, CA 94105

/s/ Richard D. Kirk (rk0922)
Richard D. Kirk